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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,128	11/14/2001	Jimmy K. Omura	22845-05952	5299

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EXAMINER

CATHEY II, PATRICK H

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,128

Applicant(s)

OMURA ET AL.

Examiner

Patrick H. Cathey II

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-87 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,12-17,25,26,31-34,44,45,47,56,57,62-65 and 75-80 is/are rejected.
- 7) ☒ Claim(s) 3-11,18-24,27-30,35-43,46,48-55,58-61,66-74 and 81-87 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim's 1, 2, 12, 14-17, 25, 26, 31, 33, 34, 56, 57, 62, 64, 65, 75 and 77-80 are rejected under 35 U.S.C. 102(e) as being anticipated by Limberg et al. (US 6,768,517).

As for Claim's 1, 14-16, 25, 33, 56, 64 and 77-79, Limberg et al. teach a computer readable method that broadcasts a signal which consists of encoding the digital data as codewords (Column 9, lines 50-63; See also Figure 4). Limberg et al. also teach using a multiplexer to replace data segments within the DTV signal with the codewords (Column 9, line 64 to Column 10, line 8; See also Figure 4). This DTV signal is shown to have a transmitter capable to transmitting the DTV signal (Column 10, lines 36-43; See also Figure 4). Limberg et al. also teach a receiver able to recover the digital data from the selected data segments (Column 15, line 54 to Column 16, line 34; See also Figures 5 and 6).

As for Claim's 2, 17, 26, 34, 57, 65 and 80, Limberg et al. teach the use of an American Television Standards Committee (ATSC) DTV signal (Column 7, line 66 to Column 8, line 1).

As for Claim 12, 31, 62 and 75, Limberg et al. teach selecting data segments according to their numerical position within a frame and replacing only the selected data segments with codewords (Column 9, line 50 to Column 10, line 9; See also all Figure 3's).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim's 13, 32, 63 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Limberg et al. in view of Sarachik et al. (US 6,816,628).

Limberg et al. teach using the symbols from the segmented data (Column 7, lines 37-40; Column 9, lines 59-63), but fail to teach only replacing the unused data segments with codewords, but Sarachik et al. does (Column 6, line 30-35). Limberg et al. teach using the symbol sequences with the segments. Although they do not teach that the data segments are unused it would have been obvious to one of ordinary skill to elect to only use the unused data segments because this makes use of the unused data space.

Claim's 44, 45 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Limberg et al. in view of Patel et al. (US 6,313,885) and in further view of Freda (US 2001/0046262).

As for Claim 44, many of the limitation have been addressed in the above rejections. Limberg et al. teach a front end adapted to receive a broadcast DTV signal comprising a plurality of frames, each frame comprising a plurality of data segments, wherein data segments have been replaced by codewords representing digital data. Limberg et al. fail to teach that the codewords are selected from a finite set of codewords, but Freda does (Page 15, Column 0209; See also Figure 7). Since many encoding and decoding applications apply a finite set of codewords to simplify the process it would have been obvious to one of ordinary skill to have a finite set of codewords for encoding each bit sequence with the codeword that was preselected.

Limberg et al. also fail to specifically teach a bank of correlators coupled to the front end and adapted to correlate the data segments against templates for codewords, but Patel et al. does (Column 21, lines 47-65). Limberg et al. do teach the use of an auto-correlation match filter (Reference Number 52 in Figure 6). Since the bank of correlators are just adding more correlators in parallel it would have been obvious to one of ordinary skill to add more correlators in parallel to form a network of correlators in order to address each of the codewords.

As for Claim 45, all of the limitations have been addressed in the above rejections.

As for Claim 47, Limberg et al. teach the DTV receiver device wherein the template for a codeword is a matched filter for the codeword (Column 16, lines 40-61).

Allowable Subject Matter

Claim's 3-11, 18-24, 27-30, 35-43, 46, 48-55, 58-61, 66-74 and 81-87 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The claims listed but not used in the above rejections were included because they teach additional information regarding DTV broadcasting.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick H. Cathey II whose telephone number is (703) 305-4909. The examiner can normally be reached on M-F 7:30 to 5:00 (Every other friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (703) 503-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick H. Cathey II
Examiner
Art Unit 2613

PHC


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